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Greening Your Business

A Look at Subaru of Indiana Automotive, Inc



"The future belongs to those who understand that doing more with less is compassionate, prosperous and enduring and thus more intelligent, even competitive."

■ Paul Hawken

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SIA, Inc. Lineup





Aerial View of SIA







Milestones

- 1998 – First Auto Maker to be ISO 14001 Certified
- 2002 – Began operation of the on-site solvent recovery system
- 2003 Designated a Backyard Wildlife Habitat by the National Wildlife Federation
- 2004 – Achieved Zero Landfill



Trash Not, Want Not

- We never call our waste “trash”
- Waste is just a material that has not found its use yet.
- One man’s junk is another man’s treasure

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The Three "R's"

Reduce, Reuse, Recycle





Dumpster Diving





No, Seriously, Dumpster Diving





Items you'll need

- Support of upper management
- Support of your employees
- Patience
- Commitment to do the right thing, even when it's not popular
- A sense of humor



Other Items That Will Help

- A By-Product Management Company
 - Allegiant Global Services
 - Collection, Sorting, and Transporting
- Waste-to-Energy Facility
 - Covanta Energy Services
- Hazardous Waste Recycler
 - Pollution Control Industries



Mr. Potato Head Theory



- Cars have a finite number of parts
- The parts (and packaging) will be the same
- Nip it in the bud!
- Break it down



Mr. Potato Head Theory of Evolution



- Different models for different years
- Part composition changes
- Changes in damages/defects
- Continued Applied Sciences



Helen Keller said,

"I long to accomplish a great and noble task, but it is my chief duty to accomplish small tasks as if they were great and noble."

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Reduction

The Most



For Your





The First “R”

Reduce

Optimize the coils to more closely approximate the run size

No cost to the company to implement

Savings = 102 pounds of steel for every vehicle that we build for the last 3 years. Sustainable project.





*Complex Reuse Projects



Solvent Recovery System
79% Reduction



Oil Centrifuge, 6,000 gallons
savings annually

- Complex = Poor ROI
- 2008 results \$2.3 million benefit over cost



The Numbers

- Since 2000:
 - 55% Reduction in TRI Emissions
 - 13% Reduction in CO2 Emissions
 - 44% Reduction in lbs/unit of Steel
 - 46% Reduction Waste Generated
(459 lbs/unit to 248 lbs/unit)



Energy Reduction

- Tons of CO₂ Averted in 2007-2008
 - Reduced Oven Time = 5,722
 - Lowered Plant Air Pressure = 825
 - Reduced Excess Lighting = 284
 - Eliminated Air Leaks = 268
 - Installed Shut-Off Valves = 21

Total of 7,120 tons of CO₂ Averted

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What is One Ton of CO₂

Imagine a cube 27ft x
27ft x 27ft

NOTHING but pure
carbon dioxide

“Regular” air contains
0.03% CO₂

One ton CO₂ is enough
for. . .do the math





The Next Best Thing

Reuse



930 Tons of Styrofoam returned in 2008

This piece of Styrofoam has been to Japan four times

Sustainable Project

Savings = \$1.3 Million
Annually

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Reused 400,000 Caps in 2008





Reuse Projects





The Numbers - 2008

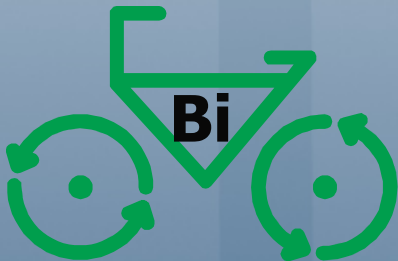
- *Engine Plant Project = 2,122 tons
- Pallets = 778 tons
- Oil and Absorbents 21 tons

Total of 2,921 tons in three projects

* Includes Styrofoam, plastics, and braces



-Cycling



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Steel



Total = 17,734 Tons



Recycling



Total = 46 Tons



Cardboard and Paper



Total = 1,363 Tons



Plastics and Foams Recycled



Total = 293 Tons

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Food to Fodder



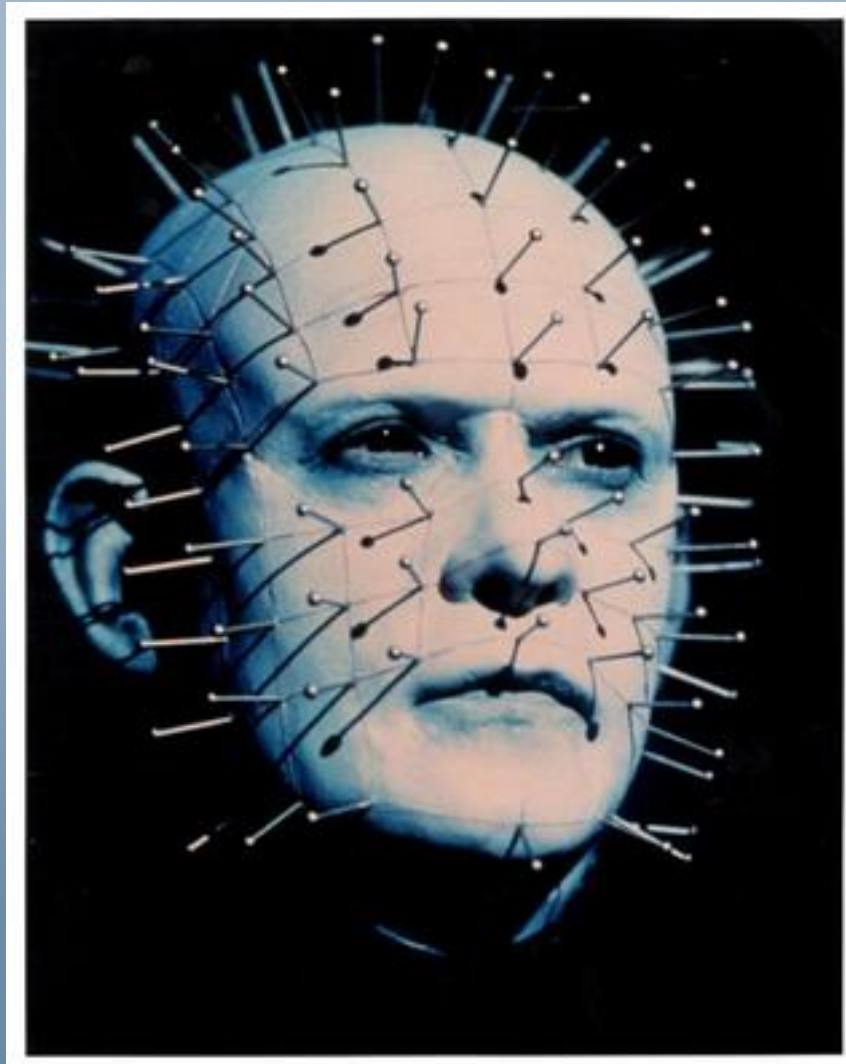


What can we do with the pop rivet stems?





Beneficial Reuse?





Associate Participation

Recycling Rate = 99.93%

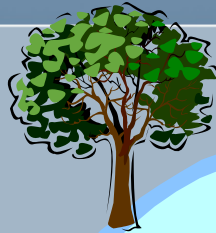




SIA 2008 Recycling Benefits

27,500 MATURE TREES

This represents enough saved timber resources to produce more than 340,725,000 sheets of newspaper!



631,000 GALLONS OF OIL

This represents 15,024 barrels of No.2 fuel oil. This is enough energy to heat and cool more than 3,128 homes for one year!



69,873,000 KW-HRS OF ELECTRICITY

This is enough power to fulfill the annual electricity needs of more than 8,521 homes!



In 2008, SIA recycled
17,907 tons of scrap metal
1,363 tons of cardboard & paper,
864 tons of wood

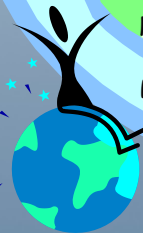
32,700 GALLONS OF GASOLINE

This is enough gasoline to drive 915,600 miles in A Subaru.



43,600 CUBIC YARDS OF LANDFILL AIRSPACE

This represents enough airspace to fulfill the municipal waste disposal needs for a community of 55,982 Americans for one year!



The recycling of this quantity of packaging and raw materials avoided their manufacturing and disposal, thereby conserving ¹:

9,541,000 GALLONS OF WATER

This represents enough water to meet the daily freshwater needs of 127,213 Americans



¹ Each ton of fiber recycled conserves: 17 mature trees; 463 gallons of oil; 24 gallons of gasoline; 4,100 kw-hrs of electricity; 7,000 gallons of water, 3.5 cubic yards of landfill airspace. Each ton of pallets recycled conserves 5.1 mature trees and 3.5 cubic yards of landfill airspace. Each ton of scrap metals recycled conserves 3,590 kw-hrs of electricity and 2.0 cubic yards of landfill airspace. Sources: U.S. Environmental Protection Agency, Institute of Scrap Recycling Industries, Gaylord Corporation, Swiss Federal office of Environment and Waste Management.



Subaru S★T★A★R★S★ Program

Students & Teachers Achieving Recycling Success

- ★ An SIA outreach program to encourage local high schools and high school students to follow the 3 R's – Reduce, Reuse, and Recycle
- ★ Started in 2005, currently over 3,600 students are participating
- ★ Schools compete for the top award in five categories:
 - Waste Reduction
 - Recycle Rate
 - Creative Reuse of Waste
 - Community Outreach
 - Promotion



Bullwinkle?





Hoosier Geese





WOW! Did You See That Legacy Fly By?





First Shift Leaving, Second Shift Coming In





Future Projects

- GreenRoof
- Phytoremediation
- Solar-Powered Sludge Drying
- Wind Power
- Solar Power
- Carbon Foot-Printing (in process)



Good Books to Read

- The Ecology of Commerce
 - Paul Hawken
- Green to Gold
 - Daniel Esty, Andrew Winston
- A Mid-Course Correction
 - Ray Anderson



Thank You

